



## Suicide Ideation and Its Risk Factors among Secondary School Adolescent in Ebonyi State, South East, Nigeria

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### Authors' contributions

This work was carried out in collaboration among all authors. Authors COA, JNN, PCN, LNOA, ANE, IMO, OYI, MOO and ON conceived and commissioned the study. Authors COA and LNOA performed the literature searches and screened for the selected studies extracted the data and wrote the first draft of the manuscript. Authors COA, JNN, PCN, LNOA, ANE, IMO, OYI, MOO and ON, supervised all aspects of the study. All authors read and approved the final manuscript.

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### ABSTRACT

**Background:** Globally, suicidal behaviour is seen as a growing public health problem. However, little is known about the suicide ideation and its risk factors among secondary school adolescent in Ebonyi State. Suicidal thought negatively impacts the quality of life, physical, and mental well-being of the students. However, research on suicide ideation among students in low- and middle-income countries are limited. Therefore, this study aimed to explore suicide ideation and its risk factors among secondary school adolescent in Ebonyi State, Nigeria.

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**Methods:** A descriptive cross-sectional survey research design was conducted to assess 399 secondary school adolescents in Ebonyi State between January to May 2021. Simple random sampling technique was used to select 399 participants. However, three hundred and ninety-four (394) were properly filled and used for the study. Data were collected using a self-administered questionnaire.

**Results:** The findings indicated that student with suicidal ideas, 68.3% are in stressful situation, 65.7% has been absence in school for 3 days consecutively, 62.7% have been disappointed by boy/girl-friend, 59.9% feel disappointed from academic performance, 58.4% have been sad or depressed most of the time, 55.6% have been lonely, and 52.3% felt so sad in a way that the situation was unbearable. The result further shows that the major risk factor of suicidal ideation among secondary school students are cultism (71.3%), alcoholism (56.9%), poverty (61.7%), drug use disorders such as (drug addiction, drug dependence, tolerance) 228 (57.9%), and mental illness (54.8%). Other risk factors identified are mental illness 216 (54.8%), sexual harassment/assault (51.8%), unemployment (51.8%), physical assault/bullying (51.8%), and family history of suicide (50.8%).

**Conclusions:** The study concluded that suicide ideation among students was high and recommended among others that the Nigeria ministry of health both state and federal in collaboration with school management should develop a guideline on how to screen and manage factors associated with suicide ideation among secondary school adolescents.

*Keywords: Suicide ideation; risk factors; secondary school adolescents; Ebonyi State.*

## 1. INTRODUCTION

### 1.1 Background to the study

Suicide is one of the most leading cause of injury and death worldwide especially among adolescence. However, while suicide ideation is relatively rare in children, it increases significantly throughout adolescence and adult stage [1]. Adolescent suicidal behavior is a neglected public health issue, especially in low- and middle-income countries, including Nigeria [2]. Due to the suicidal neglect among adolescent the rates of suicide have greatly increased to the extent that the adolescent population are the most at risk. The estimation shows that one-third of the adolescents' population in developed and developing countries have attempted suicide [1]. Although, those contemplating, attempting, or completing suicide are still viewed negatively by most people globally [3]. However, evidence from studies in Nigeria suggests that suicide ideation and suicide attempt among adolescent between the ages 15 and 24 has also been found to be relatively common in the country [4-7].

The word suicide can be conceptualized as an intentional death, a self-inflicted death which one makes an intentional direct and conscious effort to end one's life [8]. Schneidman, maintained that the deaths are self-afflicted and that the individuals attempt to end their life resulting in death. Other study maintained that suicide is the act of killing oneself, deliberately initiated and performed by the person concerned in the full

knowledge or expectation of its total outcome [9]. Suicidal ideation refers to an expression of suffering associated with internal conflicts or depression and anxiety caused by intense physical, mental and social restructuring [10]. At the beginning, suicidal ideas that are usually intermittent appear, and intensify later to become permanent and invasive. These ideas lead to the establishment of a suicidal plan and the accomplishment of that process lead subsequently to death. Whenever the outcome of the act is not fatal, it is defined as a suicide attempt which represents any act performed under the same conditions as suicide but does not lead to death [11,12]. In other words, suicidal ideation is a thoughts and ideas about committing suicide or a desire to terminate one's life without the suicidal act [13].

Studies have observed that identification of suicidal ideation among adolescent at the early stage, is a critical step in preventing suicide. Studies also indicated that a better understanding of the factors associated with suicidal ideation can assist in the design of screening regimes in detecting persons at risk in a population [14]. Although several studies have highlighted different factors associated with suicidal ideation among adolescents. These include depression, stress, burnout, sleep disorders, family history of mental illnesses, previous psychiatric disorders, the number of years of study, poor academic performance, substance use, poor social support, living alone,

feeling neglected by parents, having lost something valuable, poverty, the breaking of a steady love relationship and poor physical health [15-19]. The present study however, focused on the above highlighted factors to determine suicide ideation among Secondary School Adolescent in Ebonyi State.

Despite these scattered research of various studies reviewed in this study, it is obvious that suicide ideation and its risk factors among secondary school adolescent in Ebonyi State is yet to be established. As studies were focused on other countries and locations and not necessarily on Ebonyi state secondary school adolescent to the best knowledge of this researcher. This in the main has formed the decision to focused the present study in Ebonyi State, Nigeria. To determining the risk factors associated with suicide ideation among adolescent in Ebonyi State. Adolescence is a period in life when individuals have specific health and developmental needs and rights. It is also a time to develop knowledge and skills, learn to manage emotions and relationships, and acquire attributes and abilities that will be important for enjoying the adolescent years and successfully transitioning to adulthood [20,21]. Nevertheless, several studies have revealed high prevalence rate of suicidal ideation among adolescent in developing countries including Nigeria, ranging between 20% and 42% [22,23,24]. Studies have also observed that suicidal ideation, thinking about or planning suicide, is an important indicator of mental health status of an adolescent period during their developmental stage [25].

Due to the rate of unemployment, insecurity and poverty in Nigeria at this period of COVID-19 pandemic, many Nigerian adolescents may be facing with some social and economic difficulties such as inability to pay their school fees, cope with academic work, purchase essential textbooks, feeding, clothing or, and obtain good medical care while in school [26]. These social and economic difficulties could predispose adolescents especially secondary school adolescent in Ebonyi state into suicide ideation. The present study, is an attempt to ascertain suicide ideation and its risk factors among secondary school adolescent in Ebonyi State.

## 2. MATERIALS AND METHODS

### 2.1 Study Design and Study Setting

A descriptive cross-sectional survey research design was used to assess suicide ideation and

its risk factors among Secondary School Adolescent in Ebonyi State. Ebonyi State has thirteen local government areas and classified under three educational zones namely: Abakaliki, Onueke and Afikpo educational zone. Abakaliki zone comprises Abakaliki LGA., Ebonyi LGA., Ohaukwu LGA., and Izi LGA. Onueke educational zone is made up of Ikwo LGA., Ezza North LGA., Ezza South LGA., and Ishielu LGA. Afikpo Educational zone includes Afikpo North, Afikpo South, Ivo, Ohaozara, and Onitcha LGA. Ebonyi State shares interstate boundaries with Abia State to the south, Benue State to the north, Enugu State to the west and Cross River State to the East. The people of the area are agrarian; they produce mainly cassava, yam, rice, sweet potatoes and cocoyam. The main economic activities of the people are agriculture and trading. However, the majority of families still live in poverty with a minimum monthly wage of N30,000 (approximately \$80 dollars a month), with a rise in unemployment, COVID-19, insecurity and socio-political unrest which may necessitate suicide ideation among the adolescents in Nigeria.

### 2.2 Study Population

The population of the study consists of all the students in all the two hundred and twenty public secondary schools in the three educational zones in Ebonyi State. Out of the three educational zone, Abakaliki Educational zone has (67390) students, Afikpo (33695), and Onueke has (53912) students. The overall population of the study is one hundred and fifty-four thousand nine hundred and ninety- seven (154997) secondary school students in Ebonyi State [27].

### 2.3 Sample Size Estimation and Sampling Technique

The sample size of this research is determined using Taro Yamani formula (1964) thus,

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size, N = Population size, 1 = constant and e = error margin

$$n = \frac{154,997}{1+154,997 (0.05)^2}$$

$$n = \frac{154,997}{1+154,997 \times 0.0025}$$

$$n = \frac{154,997}{1+387.4925}$$

$$n = \frac{154,997}{388,4925}$$

$$n = 398.970 \cong 399$$

The sample for this study consisted of 399 secondary school students in the State owned secondary Schools in Ezza North LGA. The procedure for sample selection involved multi-stages. sampling procedure. The first stage involved the purposive selection of one secondary schools from the three education zone of the state. The procedure for sample selection to ensure effective representation of the schools in the three educational zones is the researcher's adoption of proportionate stratified random sampling technique to draw 133 from each strata (zone), where 133 students was drawn from Abakalik Educational zone, 133 students from Afikpo educational zone, and 133 students from Onueke educational zone making a total of 399 sample size.

## 2.4 Data Collection

In order to gain access to the study population, a letter of introduction was obtained from the Head of Department of Human Kinetics and Health Education Ebonyi State university, Abakaliki and presented to the principal of each of the schools under study. This enhanced the researcher and her assistants' access to the students. The researcher trained 4 research assistants for the instrument's administration and data collection from the respondents. The respondents were requested to complete and return the questionnaires immediately. This motive ensured 394 (98.3%) return rate of the filled instrument.

## 2.5 Method of Data Analysis

The completed copies of the SIQ were collected and crosschecked for completeness of information and responses. All statistical analysis was done using the Statistical Package for Social Science (IBM SPSS Version 25). The students were required to use "Yes or No" key to indicate the suicide ideation among secondary school adolescent in Ebonyi State. The data was analyzed using frequencies and percentages. All the results were presented using tables.

## 3. RESULTS

### 3.1 Demographic Characteristics of the Study Participants (N= 394)

The summary of the participant's sociodemographic reveals that, majority of the

students 131 (33.2%) and 104 (26.4%) aged between 14 – 16years and 16 – 18years, respectively. They 237 (60.2%) were predominantly female students and 162 (41.1%) were in SS 3. On their living arrangement, majority 229 (58.1%) were living in their family house. On their mother's occupation, majority 177 (44.9%) and 110 (27.9%) were Business/Trader and Civil Servants, respectively. Result on their father's occupation shows that majority 183 (46.4%) and 120 (30.5%) were Business men/Traders and Civil Servants, respectively. On their family birth order, more than half 236 (59.9%) were between 3<sup>rd</sup> or 4<sup>th</sup> child and 220 (55.8%) had a family type of two parent family. On their academic sponsorship, majority 275 (69.8%) were being sponsored by their parents and worthy to note that 47 (11.9%) were self-sponsored.

The result in Table 2 shows that suicidal ideation, 269 (68.3%) has something very stressful happened to them, 259 (65.7%) has ever been absence from school in 3 days consecutively, 247 (62.7%) have been disappointed by their boy/girl-friend, 236 (59.9%) have been disappointed with their academic performance, 230 (58.4%) have been sad or depressed most of the time, 219 (55.6%) have felt been lonely, and 205 (52.3%) have reported depressed. Also, 46.4% indicated hopeless, like things would never get better, 43.9% felt like they might as well give up, 34.0% have been bullied, 22.3% felt life was so bad that they didn't want to live anymore, 20.6% think that they have a problem with drugs or alcohol, 18.3% wished they were dead, 17.0 % felt that their family would be better off if dead.

Result in Table 3 shows the risk factors of suicidal ideation among adolescents. The table indicated that the major risk factor to suicidal ideation as indicated by more than 51.0% of the Secondary School Students were cultism 281 (71.3%), alcoholism 224 (56.9%), poverty 243 (61.7%), drug use disorders such as (drug addiction, drug dependence, tolerance) 228 (57.9%), and mental illness 216 (54.8%). Other risk factors identified by 204 (51.8%) of the students were; "Sexual harassment/assault", "unemployment", and "physical assault".

## 4. DISCUSSION

In the current study, suicide ideation and its risk factors among secondary school adolescent in Ebonyi State were assessed. Assessing suicide

ideation and its associated factors with the adolescent is extreme importance in the prevention of suicide in a given population. To the best knowledge of the researcher, this is the first study on suicide ideation and its factors among secondary school adolescent in Ebonyi State.

The present study revealed that a greater number of the secondary school adolescent in Ebonyi State engage in suicidal ideation. The study found that 68.3% of the students have experienced stress, the findings is however expected and thus not a surprise. The findings are expected due to the effect of COVID-19 pandemic on educational system globally especially in Nigeria, Ebonyi State secondary school inclusive. All the secondary schools in Nigeria including Ebonyi State were on lockdown due to COVID-19 pandemic. This lockdown has affected academic calendar leading to a crash programme and subjecting the secondary school students to serious academic stress. The findings are in agreement with the studies who found that suicidal students had experienced more recent stress than non-suicidal students including stress over exams [28]. Also, the review of other studies conducted on suicidal ideation have all indicated that recent stressful life events are associated with poor mental health outcomes including thoughts of suicide [29,30], and that degree of stress are significant in the prediction of degree of suicidal ideation among adolescents [31]. Also, Life styles [32], and daily stresses [33], shows a positive relationship with suicidal ideation. Based on the findings it is evidence that stress is one of the risk factor for secondary school adolescent's suicidal ideation.

The present study also revealed that 65.7% of adolescents indicated absence from school in 3 days consecutively. This finding is expected and thus not a surprise. As many of the adolescents in Ebonyi state are subjected to all kind of victimization, ill-treatment and all manner of abuse by their adopted parent and caregivers. Also when the secondary school adolescents are not positively engaged, they might resort to negative ideas and these ideas can degenerate into thinking suicide. However, the findings is in consonance with studies who indicated that academic decline over a period of time is associated with 5 times higher risk of deliberate self-harm [34, 35]. The present study further revealed that 62.7% indicated ever disappointed by boy/ girlfriend. The findings is not a surprise

due to the level of poverty and covid-19 fallout in Nigeria including Ebonyi State secondary school students leading to misunderstanding and disappointment in relationship which also can lead to suicide ideation among adolescents. The finding is in consonance with the study who indicated that adolescents with good peer relationships had much lower suicide risk scores when they were compared to those with troubled relationships with peers [36]. The finding is also in agreement with the findings who observed recently, the precipitating factors of suicidal behaviour among in-school adolescents in Ghana. The study revealed that the general school climate (including peer relationships problems, unavailability of peer support, and bullying) could be presenting adolescents with increased risk of suicidal behavior [37-40].

The present study also revealed that 59.9% adolescents were disappointed with their academic performance. This finding may be due to the pandemic that has crippled academic activities since the outbreak in Nigeria. Also, the poor academic performance may also be associated with different online methodology adopted for teaching and learning since the outbreak of pandemic, which many students in the area are not used to. However, the finding is in agreement with the study who observed that odds of suicide ideation were 2.2 times higher among students disappointed with failing school results compared to those who were not disappointed [41]. Similarly, the finding is consistent with previous studies [42-45], who indicated that poor school performance is positively associated with suicide. Also with other studies who maintained that a poor academic performance can serve as a precursor to stress, subsequent depression, and suicidality [46]. Similarly, another study on adolescents found that failing academic performance (compared to above average) was associated with a fivefold increased likelihood of a suicide attempt, controlling for self-esteem, locus of control and depressive symptoms [34]. The finding is also in agreement with the study which revealed that low performance in the preceding grade examination may lead to negative ideas about life [47]. On the aspect of depression, the current study shows that 58.4% were depressed most of the time. The study further observed that 52.3% felt depressed in a way that it is unbearable for them. The findings, however disagree with the study who observed as follows. First, although depression is clearly a risk factor for suicide ideation, a majority of individuals with suicide ideation did not meet

**Table 1. Socio demographic characteristics of the secondary school students (N=394)**

Characteristics	Frequency	Percentage
Age		
10-13 years	61	15.5%
14-16 years	131	33.2%
16-18 years	104	26.4%
19 years and above	98	24.9%
Gender		
Male	157	39.8%
Female	237	60.2%
Academic class level		
SS 1	108	27.4%
SS 2	124	31.5%
SS 3	162	41.1%
Living Arrangement		
On campus Hostel	63	16.3%
Off Campus	29	7.4%
Alone in Rented Apartment	73	18.5%
With family House	229	58.1%
Mother Occupation		
House wife	46	11.7%
Civil Servant	110	27.9%
Business/Trade	177	44.9%
Artisan	9	2.3%
Farmer	29	7.4%
Politician	23	5.8%
Father Occupation		
Civil Servant	120	30.5%
Business/Trade	183	46.4%
Artisan	44	11.2%
Farmer	47	11.9%
Family birth orders		
1st-2nd Child	146	37.1%
3rd-4th Child	236	59.9%
5th child and Above	12	3.0%
Family type		
Two parent family	220	55.8%
Single parent Family	153	38.8%
Separated/Divorced	21	5.3%
Academic Sponsor		
Self	47	11.9%
Parent	275	69.8%
Guardian	70	17.8%
Friends	2	5.0%

*Specific Objective 1: Suicide ideation among Secondary School Adolescents in Ebonyi State*

the criteria for high depressive symptoms. Again, that suicide ideation occurs frequently in the absence of clinically significant depressive symptoms among first-year college students is consistent with the work of [48]. Levy and Deykin suggests that campus health center personnel should not rely solely on depression screening tools to identify students at risk for suicide.

The present study also shows that 55.6% of adolescent feel lonely. This finding is not a

surprise and thus expected due to lockdown experiences among the students during the period of this study. The government as a result of mitigating the spread of COVID-19 pandemic announced the lockdown of social gathering including schools in all the state in Nigeria. Many students were not allowed to engage in social activities including school activities. This restriction on social gathering may predispose the adolescents into feeling loneliness, negative

**Table 2. Suicide Ideation**

S/N	Suicidal Ideations in the past 12 Months (N=394)	Yes (%)	No (%)
1	Has something very stressful happened to you?	269 (68.3)	125 (31.7)
2	Ever been absence from School in 3 days consecutively	259 (65.7)	135 (34.3)
3	Ever been disappointed by your boy/ girl friend	247 (62.7)	147 (37.3)
4	Ever been disappointed with your academic performance	236 (59.9)	158 (40.1)
5	In the past 12 Months, have you been sad or depressed most of the time?	230 (58.4)	164 (41.6)
6	Ever been lonely in the last 12 months	219 (55.6)	175 (44.4)
7	Have ever felt so sad or depressed in a way that felt unbearable, like you couldn't stand it anymore?	206 (52.3)	188 (47.7)
8	Have ever felt so nervous or worried in a way that felt unbearable, like you couldn't stand it anymore?	196 (49.7)	198 (50.3)
9	Have ever felt hopeless, like things would never get better?	183 (46.4)	211 (53.6)
10	Felt like you might as well give up because you can't make things better for yourself?	173 (43.9)	221 (56.1)
11	Have ever been bullied or picked on so much that you felt like you couldn't stand it anymore?	134 (34.0)	260 (66.0)
12	Have you thought that your life was so bad that you didn't want to live anymore?	88 (22.3)	306 (77.7)
13	Do you or anyone in your life think you have a problem with drugs or alcohol?	81 (20.6)	313 (79.4)
14	Have you wished you were dead?	72 (18.3)	322 (81.7)
15	Have you felt that you or your family would be better off if you were dead?	67 (17.0)	327 (83.0)

*Objective 2: Risk factors of suicide ideation among Secondary School Adolescents in Ebonyi State*

**Table 3. Risk Factors of Suicide Ideation**

S/N	Suicidal Risk Factors	Frequency (%)
1	Cultism	281 (71.3)
2	Alcoholism	224 (56.9)
3	Poverty	243 (61.7)
4	Drug use disorders such as (drug addiction, drug dependence, tolerance etc)	228 (57.9)
5	Mental illness (e.g. depression, hopelessness, delusion, hallucination)	216 (54.8)
6	Sexual Harassment/assault	204 (51.8)
7	Unemployment	204 (51.8)
8	Physical assault/ Bullying	204 (51.8)
9	Family history of suicide	200 (50.8)
10	Family problems	195 (49.5)
11	Being diagnosed of a serious illness such as HIV, cancer	193 (49.0)
12	Academic Stress	187 (47.5)
13	Disappointment from boy/girl friends	162 (41.1)
14	Insecurity	157 (39.8)
15	Loss of a dear one	146 (37.1)
16	Poor financial condition	122 (31.0)
17	Fear of COVID-19	90 (22.8)

thought and ideas, as an "idle mind is devil's workshop". This finding is consistent with the study who revealed that children who felt lonely most of time or always are more likely to have suicidal ideation and suicidal attempt compared to their counterparts [49]. Previous studies done

in Lebanon, Uganda, Tanzania, Sub-Saharan Africa have also revealed that children are more likely to have suicidal ideation when they have feeling of loneliness [50-53]. Feeling lonely could exacerbate the ill effect of other problems associated with suicide behaviours as they find

no one to confide or share the problem so as to alleviate the torments. This scenario emphasizes the need for social support from family, friends, and significant others for maintaining mental well-being of adolescent.

## 5. CONCLUSIONS

The findings of the present study established suicide ideation and its risk factors among secondary school adolescent in Ebonyi State, Nigeria. Suicide ideation among adolescent was found to be high. Factors such as, depression, stress, absence from school, poor performance in school, disappointment from boy/girl-friend, disappointed with their academic performance, been sad or depressed most of the time, loneliness, amongst others were found to be significantly influencing suicide ideation among adolescent in Ebonyi State secondary schools. The study recommended amongst others that the ministry of health both state and federal should as a matter of urgency develop a guideline on how to identify and manage suicide ideation among secondary school adolescents in Ebonyi State and Nigeria. Again, the study recommended the need to create a national suicide prevention plan with local community support. This is necessary to enable future interventions, policies, and resource allocation that can yield the impact needed to improve the conditions and health outcomes of the adolescents. Again, future researchers should focus on suicide attempt, the relationship between suicide and suicide risk factors, prevention, control and treatment programs of suicide ideation targeting the identified factors associated with suicide ideation among adolescents in the secondary schools in Ebonyi State.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## CONSENT AND ETHICAL APPROVAL

A letter of introduction duly signed was collected from the Head of Department of Human Kinetics and Health Education Ebonyi State university,

Abakaliki seeking permission to conduct a research on suicide ideation among secondary school adolescent in Ebonyi State. This was presented to the principals of the five selected secondary schools in Ebonyi State. The letter gave the researcher an access to the students to administer the questionnaire personally to the respondents. The procedure for the completion of the questionnaire was explained to the respondents by the researcher. The researcher persuaded the students by telling them that the information given in the questionnaire will be held in confidence and will be used only for the purpose of the study. The approach ensured maximum returned copies of the completed questionnaire.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Kwakpovwe CE. Internet suicides: Hold on to god. Our daily manna. National center for injury prevention and control, division of violence prevention national center for injury prevention and control, division of violence prevention;2018.
2. Begum A. Social determinants of suicidal ideation among adolescents in Rural Bangladesh, Mid Sweden University, Sundsvall;2021
3. Stillion JM. Through a glass darkly: women and attitudes toward suicidal behavior. In: Women and Suicidal Behavior, Canetto SS, Lester D, eds;1995.
4. Randall J.R. Doku D, Wilson ML, Peltzer K. Suicidal behaviour and related risk factors among school-aged youth in the republic of Benin. Plos One. 2014;9(2):1-9.
5. Shilubane HN, Ruitter RA, Van Den Borne B, Sewpaul R, James S, Reddy PS. "Suicide and related health risk behaviours among school learners in SouthAfrica: Results from the 2002 and 2008 national youth risk behaviour surveys. BMC Public Health. 2013;13(1):article no. 926.
6. Kebede D, Ketsela T. "Suicide attempts in Ethiopian adolescents in Addis Abeba high schools. Ethiopian Medical Journal. 1993;31(2):83-90.
7. Omigbodun O, Dogra N, Esan O, Adedokun B. "Prevalence and correlates of suicidal behaviour among adolescents in Southwest Nigeria. International Journal of Social Psychiatry. 2008;54 (1):34-46.

8. Shneidman ES. Anodyne psychotherapy for suicide: A psychological view of Self-Destructive Behavior. Northvale, NJ: J. Aronson;2005.
9. World Health Organization. Mental health gap action programme: Scaling up care for mental, neurological and substance use disorders. Geneva: WHO;2008.
10. Van Heeringen K. The suicidal process and related concepts. In: van Heeringen K., editor. editor. Understanding Suicidal Behaviour. Chichester: John Wiley & Sons Ltd. 2001;136–59.
11. Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S. Suicide and suicidal behavior. *Epidemiol Rev.* 2008;30:133-54.
12. Bonner RL, Rich AR. Toward a predictive model of suicidal ideation and behaviour: Some preliminary data in college students. *Suicide and Life-Threatening Behavior.* 1987;17:50-63.
13. Gvion,Y, Apter A. Suicide and suicidal behavior. *Public health reviews.* 2017;34(2):9.
14. Siu-Man NG, Mao-Sheng RAN, and Lai-Wan, LC. Factors Related To Suicidal Ideation Among Adolescents in HONG KONG, *Illness, Crisis & Loss.* 2010;18(4):341-354.
15. Dyrbye LN, Thomas MR, Massie FS, Power DV, Eacker A, Harper W, et al. Burnout and suicidal ideation among US medical students. *Ann Intern Med.* 2008;149(5):334–41.
16. Dachew BA, Biffitu BB, Tiruneh BT, Anlay DZ, Wassie MA. Suicidal thoughts among university students in Ethiopia. *Ann Gen Psychiatry.* 2016;17(1):1.
17. Coentre R, Faravelli C, Figueira ML. Assessment of depression and suicidal behaviour among medical students in Portugal. *Int J Med Educ.*2016;7:354.
18. Van Niekerk L, Scribante L, Raubenheimer P. Suicidal ideation and attempt among South African medical students. *SAMJ.* 2012;102(6):372–3.
19. Fan AP, Kosik RO, Mandell GA, Tran DTP, Cheng HM, Chen CH, et al. Suicidal ideation in medical students: who is at risk? *Ann Acad Med- Singapore.* 2012;41(9):377
20. Guo Y, Hopson LM, Yang F. Socio-ecological Factors Associated with Adolescents' Socio-ecological Factors Associated with Adolescents' Psychological Well-being: A multilevel analysis *Psychological Well-being: A multilevel analysis. Int J Sch Soc Work [Internet]. [cited 2020 Dec 5];3. Available: <https://doi.org/10.4148/2161-4148.1032>*
21. World Health Assembly. Youth and health risks. 2011;1–4.
22. Chan D. Reasons for living among Chinese adolescents in Hong Kong. *Suicide and Life-Threatening Behavior.* 1995;25:347-358.
23. Stewart SM, Lam T H, Betson C, Chung SF. Suicide ideation and its relationship to depressed mood in a community sample of adolescents in Hong Kong. *Suicide and Life-Threatening Behavior,* 1999;29:227-240
24. Yip PSF, Liu KY, Lam TH, Stewart SM, Chen E, Fan S. Suicidality among high school students in Hong Kong, SAR. *Suicide and Life-Threatening Behavior.* 2004;34(3):284-297.
25. Van Heeringen K. The Neurobiology of Suicide and Suicidality. Vol. 48, In *Review W Can J Psychiatry;*2003.
26. Eneh OC. Attitudes of HPE Students in Nigerian Universities towards suicide. *Clinical Neuropsychiatry.* 1998;2(1):7-12.
27. SEB. Secondary education board, Abakaliki, Ebonyi State: Ministry of Education;2020.
28. Bonner RL, Rich AR. Toward a predictive model of suicidal ideation and behavior: some preliminary data in college students. *Suicide Life Threat Behav.* 1987 Spring;17(1):50-63.
29. Flannery DJ, Singer MI, Wester K. Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry.* 2001;40:435–442.
30. Yang B, Clum GA. Effects of early negative life experiences on cognitive functioning and risk for suicide: A review. *Clinical Psychology Review.* 1996;16:177-95.
31. Huff CO. Source, recency, and degree of stress in adolescence and suicide ideation. *Adolescence.* 1999;34:81–89.
32. Hintikka J, Koivumaa-Honkanen H, Lehto SM, Honkalampi TTK, Haatainen K, Viinamäki H. Are factors associated with suicidal ideation true risk factors? A 3-year prospective follow-up study in a general population. *Social Psychiatry and Psychiatric Epidemiology.* 2009;44:29–33. DOI:10.1007/s00127-008-0401-6

33. Izadinia N, Amiri M, Jahromi RG, Hamidi, S. A study of relationship between suicidal ideas, depression, anxiety, resiliency, daily stresses and mental health among Tehran university students. *Procedia-Social and Behavioral Sciences*. 2010;5:1515–1519. DOI: 10.1016/j.sbspro.2010.07.335
34. Richardson AS, Bergen HA, Martin G, Roeger L, Allison S. Perceived academic performance as an indicator of risk of attempted suicide in young adolescents. *Arch Suicide Res*. 2005;9:163-76.
35. Arun P, Chavan BS. Stress and suicidal ideas in adolescent students in Chandigarh, Indian. *Indian Journal of Medical Sciences*. 2009;63(7).
36. Engin E, Cuhadar D, Ozturk E. Healthy life behaviors and suicide probability in university students. *Arch Psychiatr Nurs*. 2012;26(1):43-53.
37. Asante KO, Kugbey N, Osafo J, Quarshie ENB, Sarfo JO. The prevalence and correlates of suicidal behaviours (ideation, plan and attempt) among adolescents in senior high schools in Ghana. *SSM-Population Health*. 2017;3:427–434. Available:https://doi.org/10.1016/j.ssmph.2017.05.005.
38. Ohene SA, Johnson K, Atunah-Jay S, Owusu A, Borowsky IW. Sexual and physical violence victimization among senior high school students in Ghana: Risk and protective factors. *Social Science & Medicine*. 2015;146:266–275. Available:https://doi.org/10.1016/j.socscimed.2015.10.019.
39. Owusu A, Hart P, Oliver B, Kang M. The association between bullying and psychological health among senior high school students in Ghana, West Africa. *Journal of School Health*. 2011; 81(5):231–238. Available: https://doi.org/10.1111/j.1746-1561.2011.00590.x.
40. Quarshie ENB, Andoh-Arthur J. Suicide attempts among 1437 adolescents aged 12-17 years attending junior high schools in Ghana. *Crisis* (advance online publication). 2020;1-10. Available:https://doi.org/10.1027/0227-5910/a000746.
41. Amare T, Meseret S, Woldeyhanes KH, Yeneabat T. Prevalence and Associated Factors of Suicide Ideation and Attempt among Adolescent High School Students in Dangila Town, Northwest Ethiopia, *Hindawi Psychiatry Journal*. 2018;9. Available:https://doi.org/10.1155/2018/7631453
42. WHO, “Adolescent development [Internet]. WHO. Available:http:// www.who.int/maternalchild/adolescent/topics/adolescence/dev/en/.
43. Kosidou K, Dalman C, Fredlund P, et al. School performance and the risk of suicide attempts in young adults: A longitudinal population-based study. *Psychological Medicine*. 2014;44(6):1235–1243,.
44. Dubow EF, Kauch DF, Blum M. C, Reed J, Bush, E. Correlates of suicidal ideation and attempts in a community sample of junior high and high school students. *Journal of Clinical Child Psychology*. 1989;18:158–166.
45. Hesketh T, Ding QJ, Jenkins R. Suicide Ideation in Chinese Adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 2002; 37, 230-235. Available:http://dx.doi.org/10.1007/s00127-002-0536-9
46. Petzel SV, Riddle M. Adolescent suicide: Psychosocial and cognitive aspects. *Adolescent Psychiatry*. 1981;9:342-398.
47. Hameeda S, Musaddiq J. Student Stress and Suicidal Ideation: The Role of Social Support From Family, Friends, and Significant Others. *International Journal of Humanities and Social Science Invention*. 2017;6(9):21-32. Available:www.ijhssi.org.
48. Levy JC, Deykin EY. Suicidality, depression, and substance abuse in adolescence. *The American Journal of Psychiatry*. 1989;146(11):1462–1467.
49. Pandey AR, Bista B, Dhungana RR, Aryal KK, Chalise B, Dhima IM. Factors associated with suicidal ideation and suicidal attempts amongadolescent students in Nepal: Findings from Global School-based Students Health Survey. *PLoS One*. 2019;14(4):e0210383. Available:https://doi.org/10.1371/journal.pone.021038
50. Mahfoud ZR, Afifi RA, Haddad PH, DeJong J. Prevalence and determinants of suicide ideationamong Lebanese adolescents: results of the GSHS Lebanon 2005. *Journal of Adolescence*. 2011;34:379–384. Available:https://doi.org/10.1016/j.adolescence.2010.03.009 PMID: 20434762
51. Rudatsikira E, Muula AS, Siziya S, Twa-Twa J. Suicidal ideation and associated

- factors among school-going adolescents in rural Uganda. BMC psychiatry. 2007;7:67. Available:<https://doi.org/10.1186/1471-244X-7-67> PMID: 18034906
52. Dunlavy AC, Aquah EO, Wilson ML. Suicidal ideation among school-attending adolescents in Dar es Salaam, Tanzania. Tanzania Journal of Health Research. 2015;17.
53. Page RM, West JH. Suicide ideation and psychosocial distress in sub-Saharan African youth. American journal of health behavior. 2011;35:129–141. PMID: 21204676

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